File 340:CLAIMS(R)/US Patent 1950-98/Apr 28
(c) 1998 IFI/Plenum Data Corp

Set	Items	Description
? s curable(1w)resin? ? and substrate? ? and optical()information()medi??? ?		
	13584	CURABLE
	114733	RESIN? ?
	2471	CURABLE(1W)RESIN? ?
	125982	SUBSTRATE? ?
	110899	OPTICAL
	112709	INFORMATION
	167834	MEDI??? ?
	42	OPTICAL(W)INFORMATION(W)MEDI??? ?
S1	5	CURABLE(1W)RESIN? ? AND SUBSTRATE? ? AND OPTICAL()INFORMATION()MEDI??? ?

? t1/5/1-5

1/5/1
DIALOG(R)File 340:CLAIMS(R)/US Patent

2927078 9800306
C/ **OPTICAL INFORMATION MEDIUM** AND METHOD FOR FABRICATING THE SAME
Document Type: UTILITY
Inventors: Arai Yuji (JP); Ishiguro Takashi (JP); Matumoto Takanobu (JP); Shin Yuaki (JP)
Assignee: Taiyo Yuden Co Ltd JP Assignee Code: 82596

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 5705247	980106	US 674347	960702
Division of:	US 5470691		US 223465	940405
	US 5616450		US 437394	950509
Priority Applic:			JP 93107617	930410
			JP 93120996	930424
			JP 93120999	930424

Abstract:
An **optical information medium** providing a protective layer above an optically transparent **substrate** to protect a recording part, and can record information which is optically readable by means of laser beam. An aqueous printing ink-fixable, hydrophilic resin film is formed on the protective layer. Given letters and patterns can be printed easily and satisfactorily. Such letters and patterns are printable by means of, for example, an ink jet printer.

Exemplary Claim:
D R A W I N G

1. An **optical information medium** which comprises a protective layer formed of a UV-**curable resin** film on a **substrate**, an intermediate layer formed between the **substrate** and the protective layer for storing information therein and a printing layer formed of a hydrophilic resin film on said protective layer, characterized in that the hydrophilic resin film is

closely adhered to the protective layer, wherein bonding properties at a boundary between the hydrophilic resin film and the protective layer are better than bonding properties at a boundary between the intermediate layer and the protective layer.

Class: 428064100
Class Cross Ref: 369283000; 369288000; 428064400; 428064800; 428913000; 430270160; 430495100; 430945000
IPC: B32B-003/00

1/5/2
DIALOG(R)File 340:CLAIMS(R)/US Patent

2900036 9730723
C/ **OPTICAL INFORMATION MEDIUM**, AND METHOD AND APPARATUS FOR FABRICATING THE SAME
Document Type: UTILITY
Inventors: Inoue Kiyoshi (JP); Miyamoto Hisaki (JP); Nagashima Michiyoshi (JP); Noda Sakae (JP)
Assignee: Matsushita Electric Industrial Co Ltd JP Assignee Code: 53120

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 5681634	971028	US 599181	960209
Priority Applic:			JP 9527086	950215
			JP 9558933	950317
			JP 9558934	950317

Abstract:
The disk-shaped **optical information medium** of this invention includes: a first **substrate** having a center hole; a second **substrate** having a center hole; and a radiation **curable resin** interposed between the first and second **substrates** for bonding together the first and second **substrates**, wherein the **optical information medium** further includes a stopper for preventing the radiation **curable resin** from protruding into the center holes of the **substrates**, and a space between the first and second **substrates** of at least a half of a clamp region for clamping the **optical information medium** is filled with the resin.

Exemplary Claim:
D R A W I N G

1. A disk-shaped **optical information medium** comprising: a first **substrate** having a center hole; a second **substrate** having a center hole; and a radiation **curable resin** interposed between the first and second **substrates** for bonding together the first and second **substrates**, wherein the **optical information medium** further comprises a stopper for preventing the radiation **curable resin** from protruding into the center holes of the **substrates**, and a space between the first and second **substrates** of at least a half of a clamp region for clamping the **optical information medium** is filled with the resin.

Class: 428064600
Class Cross Ref: 369272000; 369275100; 369275400; 428064100; 428064200; 428064400; 428156000; 428323000; 428409000; 428414000; 428448000; 430270100; 430917000
IPC: B32B-009/00

1/5/3
DIALOG(R)File 340:CLAIMS(R)/US Patent

2755017 9621552
C/ **OPTICAL INFORMATION MEDIUM** AND METHOD FOR PRINTING ON

THE SURFACE OF THE MEDIUM; RECORDING
Document Type: UTILITY
Inventors: Arai Yuji (JP); Ishiguro Takashi (JP); Watanabe Toshio (JP)
Assignee: Sony Corp JP; Taiyo Yuden Co Ltd JP Assignee Code: 78288 82596

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 5549952	960827	US 76339	930611
Priority Applic:			JP 92178967	920613

Abstract:
An **optical information medium** comprises an optically transparent **substrate** and a protective layer formed on the **substrate** for protecting a record portion so that information which is optically readable by means of a laser beam can be recorded. A hydrophilic film is formed at a side opposite to a side through which reproduction light of the optically transparent **substrate** is passed. The film has a hydrophilic surface on which an aqueous printing ink is fixable. Printing is possible on the hydrophilic surface by use of an ink jet printer. A method for printing on the hydrophilic surface is also described.

Exemplary Claim:
D R A W I N G

1. An **optical information medium** which optically readable information can be reproduced and/or recorded by a laser beam, said **optical information medium** comprising a plate-shaped, optically transparent **substrate** having a recording layer, a reflective layer, a proctective layer made of UV-**curable resin** and a hydrophilic resin film having a printing ink-fixable, hydrophilic surface provided at a side which is opposite to a side of said optically transparent **substrate** through which reproduction light is incident.

Class: 428064400
Class Cross Ref: 346135100; 347106000; 369288000; 428457000; 428500000; 428913000; 430270110
IPC: B32B-003/02

1/5/4
DIALOG(R)File 340:CLAIMS(R)/US Patent

2666699 9529094
C/ **OPTICAL INFORMATION MEDIUM**
Document Type: UTILITY
Inventors: Arai Yuji (JP); Ishiguro Takashi (JP); Matumoto Takanobu (JP); Shin Yuaki (JP)
Assignee: Taiyo Yuden Co Ltd JP Assignee Code: 82596

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 5470691	951128	US 223465	940405
	(Cited in 001 later patents)			
Priority Applic:			JP 93107617	930410
			JP 93120996	930424
			JP 93120999	930424

Abstract:
An **optical information medium** providing a protective layer above an optically transparent **substrate** to protect a recording part, and can record information which is optically readable by means of laser beam. An aqueous printing ink-fixable, hydrophilic resin film is formed on the protective layer. Given letters and patterns can be printed easily and satisfactorily. Such letters and patterns are printable by means of, for example, an ink jet printer.

Exemplary Claim:
D R A W I N G

1. An **optical information medium** comprising a plate-shaped, optically transparent **substrate**, a resin protective layer formed above a first side of the **substrate** and an intermediate layer formed between the protective layer and the optically transparent **substrate**, which is capable of reproducing optically readable information by means of laser beam, characterized in that an aqueous printing ink-fixable, hydrophilic resin film made of a radiation energy **curable resin** is formed on the resin protective layer.

Class: 430273100
Class Cross Ref: 347106000; 369284000; 428064400; 430945000
IPC: G11B-007/24

1/5/5
DIALOG(R)File 340:CLAIMS(R)/US Patent

2069353 9017484 3045762
CE/ OPTICAL INFORMATION MEMORY MEDIUM FOR RECORDING AND ERASING INFORMATION ; ALLOY FILM CONTAINING INDIUM AND ANTIMONY
Document Type: UTILITY
Inventors: Goto Yasuyuki (JP); Itoh Ken-ichi (JP); Koshino Nagaaki (JP); Maeda Miyozo (JP); Shibata Itaru (JP); Sueishi Kozo (JP); Ushioda Akira (JP); Utsumi Kenichi (JP)
Assignee: Fujitsu Ltd JP Assignee Code: 32608

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 4947372	900807	US 443860	891130
	(Cited in 003 later patents)			
Continuation of:	ABANDONED		US 803294	851202
	ABANDONED		US 341285	890421
Priority Applic:			JP 84255672	841205
			JP 84255673	841205
			JP 84274502	841228
			JP 84274537	841228
			JP 856669	850119
			JP 856670	850119
			JP 856671	850119
			JP 8567983	850330

Abstract:
Recording and erasing optical information can be done by using an alloy film capable of forming two stable crystalline states differing in crystal texture and optical characteristics by being irradiated with optical energies under different conditions. The memory film includes 35-45 atom % of Indium (In) and 55-65 atom % of antimony (Sb).

Exemplary Claim:
D R A W I N G

1. An optical information memory medium including a **substrate**, comprising: a thin memory film, formed on the **substrate** including 35-45 atom% of Indium (In) and 55-65 atom% of antimony (Sb), capable of selectively forming two stable crystalline states, the memory film having a first crystalline state when information has been recorded and a second crystalline state when information has been erased, the first crystalline state having a first reflectivity by irradiating the memory film with an optical energy beam having a first intensity for a first time period such that the entire thickness of the memory film is fused at the portion irradiated , and the second crystalline state having a second reflectivity lower than the first reflectivity by irradiating the memory film with an optical energy beam having a second intensity less than or equal to the first intensity for a second time period longer than the first time period.

Class: 365106000

Class Cross Ref: 346135100; 346137000; 347264000; 365113000; 365114000;
365215000; 369284[redacted]; 430270130; 430945000
IPC: G11C-013/00
IPC Cross Ref: G11B-007/26
? s curable(1w)resin? ? and substrate? ? and optical()information

```
          13584  CURABLE
         114733  RESIN? ?
           2471  CURABLE(1W)RESIN? ?
         125982  SUBSTRATE? ?
         110899  OPTICAL
         112709  INFORMATION
           1670  OPTICAL(W)INFORMATION
      S2     11  CURABLE(1W)RESIN? ? AND SUBSTRATE? ? AND
                 OPTICAL()INFORMATION
```

? s s2 not s1

```
             11  S2
              5  S1
      S3      6  S2 NOT S1
```

? t3/5/1-6

3/5/1
DIALOG(R)File 340:CLAIMS(R)/US Patent
(c) 1998 IFI/Plenum Data Corp. All rts. reserv.

2903517 3774077
E/ INITIALIZATION PROCESS FOR A PHASE CHANGE RECORDING MEDIUM WITH A ZERO LEVEL DROP IN FLASH LIGHT EMISSION; FOR AN **OPTICAL INFORMATION** RECORDING MEDIUM
Document Type: UTILITY
Inventors: Furukawa Shigeaki (JP); Kawahara Katsumi (JP); Yamada Noboru (JP)
Assignee: Matsushita Electric Industrial Co Ltd JP Assignee Code: 53120

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 5684778	971104	US 533147	950925
Priority Applic:			JP 94231035	940927
			JP 94232896	940928
			JP 94233829	940928
			JP 94233830	940928
			JP 94236748	940930

Abstract:
The present invention relates to a production process and a production apparatus for the **optical information** recording media comprising a material thin film which exhibits a reversible change of the optical characteristics by the irradiation of an energy beam such as a laser beam on the **substrate**. By dropping the emission strength instantly to the virtual zero level after having the emission for a specified time in conducting the initial crystallization process, both a large irradiation power and a short irradiation time can be achieved to reduce the various thermal damages. The charging time can be shortened. In the production of **optical information** recording materials with single side structure, in particular, by applying an annealing process in combination with a formation process of the resin protection layer or a recording thin fil initialization process, the warp or distortion of media caused by the contraction of the ultraviolet ray curing resin layer or the recording thin film layer can be reduced or corrected to realize an **optical information** recording medium having excellent servo characteristics. Further, by having at least one of two media to be affixed with a transmissivity of an ultraviolet ray of 3% or more as a method to comprise an **optical information** recording medium with double sides structure not liable to have a warp or distortion, an ultraviolet ray curing resin can be used as an adhesive, resulting in simplifing the production process.

Exemplary Claim:

D R A W I N G

1. An initialization process for an **optical information** recording medium, applied to an **optical information** recording medium which comprises a recording thin film layer which exhibits a phase transition between the crystal phase and the amorphous phase formed on a **substrate**, the initializing comprising irradiating a flash light to initialize the recording thin film layer, comprising the steps of; supporting the **optical information** recording medium at a specified position; charging electric energy in a storage circuit portion to supply to a flash light source; starting emission by triggering the flash light source; and starting operation of a shutoff circuit portion connected to the flash light source after having the emission for a specified time period to terminate the discharge instantly to drop the emission power to virtually a zero level.

Class: 369100000
Class Cross Ref: 369116000; 369121000; 369284000; 430270130
IPC: G11B-007/24
IPC Cross Ref: B41M-005/26

3/5/2
DIALOG(R)File 340:CLAIMS(R)/US Patent

2451821 9405809
C/ **OPTICAL INFORMATION** RECORDING MEDIUM IN WHICH A PROTECTIVE LAYER COMPRISES A NI-CR ALLOY LAYER; ALUMINUM REFLECTING LAYER
Document Type: UTILITY
Inventors: Itoh Masaki (JP)
Assignee: NEC Corp JP Assignee Code: 59832

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 5292592	940308	US 880017	920508
	(Cited in 002 later patents)			
Priority Applic:			JP 91105848	910510

Abstract:
In an **optical information** recording medium comprising a **substrate** (11) of polycarbonate, a recording layer, and a reflecting layer (14) covering the reflecting layer and containing Al, an alloy layer (17) of a Ni-Cr alloy is deposited on the reflecting layer to sufficiently protect transmission of moisture into the reflecting layer. A covering layer (18) of ultraviolet **curable resin** may be deposited on the alloy layer. The recording layer is formed on the **substrate** and includes a magneto-optical layer (13) sandwiched between first and second interference layers (15, 16). For protecting transmission of moisture into the **substrate**, it is preferable that an additional layer (21) of SiO2 is deposited on the **substrate** opposite to the recording layer.

Exemplary Claim:
D R A W I N G

1. An **optical information** recording medium comprising a **substrate**, a protective layer, a recording layer between said **substrate** and said protective layer, and a reflecting layer between said protective layer and said recording layer, said reflecting layer containing Al, said protective layer comprising an alloy layer of a Ni-Cr alloy on said reflecting layer, said Ni-Cr alloy containing 20% by weight of Cr.

CA Ref: 121046729
Class: 428626000
Class Cross Ref: 365122000; 369288000; 428652000; 428678000; 428900000; 428928000
IPC: B32B-015/08
IPC Cross Ref: G11B-007/24; G11C-013/06

3/5/3
DIALOG(R)File 340:CLAIMS(R)/US Patent

2153291 9113444
C/ **OPTICAL INFORMATION** CARD
Document Type: UTILITY
Inventors: Kalyanaraman Palaiyur S (US); Onorato Frank J (US)
Assignee: Hoechst Celanese Corp Assignee Code: 17102

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 5023167	910611	US 490217	900308
Priority Applic:			US 490217	900308

Abstract:
Provided is an **optical information** card having a particular structure. The card is comprised of four different layers, i.e., a card **substrate**, a recording layer which is formed on one side of the card **substrate** and which comprises a naphthalocyanine compound, a polyvinyl alcohol coating directly over the information layer, and a transparent protective layer over the polyvinyl alcohol layer. This structure offers a very sensitive and useful **optical information** card which can be easily manufactured while maintaining the integrity of the information layer, and which permits one to realize the advantage of using a naphthalocyanine information layer in a card format.

Exemplary Claim:
D R A W I N G

1. An **optical information** card comprised of (i) a **substrate**; (ii) a naphthalocyanine containing information layer; (iii) a polyvinyl alcohol layer coated directly onto the naphthalocyanine layer wherein the said polyvinyl alcohol layer has a thickness in the range of from about 200-1000 Angstroms, and is of a thickness less than that of the information layer; and, (iv) a protective topcoat layer.

CA Ref: 115266977
Class: 430270170
Class Cross Ref: 427164000; 427166000; 428064800; 428065100; 430271100; 430273100; 430945000
IPC: G03C-001/00

3/5/4
DIALOG(R)File 340:CLAIMS(R)/US Patent

2133169 9107634
C/ MASTER DISC AND METHOD OF MANUFACTURING A MATRIX; ELECTROLESS DEPOSITION OF METAL LAYER TO POLYSULFONE
Document Type: UTILITY
Inventors: Van Andel Maarten A (NL); Van Liempd Johannes P J G (NL); Wijn Josephus M (NL)
Assignee: U S Philips Corp Assignee Code: 60616

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 5004660	910402	US 425382	891017
	(Cited in 003 later patents)			EXPIRED
Continuation of:	ABANDONED		US 223457	880721
Priority Applic:			NL 871736	870723

Abstract:
The master disc contains a **substrate** plate which is preferably provided with an optically detectable guide track and a recording layer of polysulphone such as poly(1-butene sulphone) to which, preferably, a

colorant is added and in which an optically readable information track is provided by patterned exposure, a pit or groove being formed in the polysulphone layer. A matrix is formed by applying a metal layer to the polysulphone layer by means of an electroless deposition process and then, applying a further metal layer by means of an electrodeposition process or applying a **curable** synthetic **resin** layer together with a metal disc, after which the synthetic resin is made to cure.

Exemplary Claim:
1. A master disc for the manufacture of matrices which in turn are used in the manufacture of **optical information** carriers, said master disc comprising a **substrate** plate provided on one side with a layer of a radiation-sensitive substance in which an optically readable information track formed of pits or grooves is provided, said radiation-sensitive substance being a polysulphone which corresponds to the formula

-(H2C-C(-X1)(-X2)-SO2)n- or -(HC=C(-X1)-SO2)n-

where X1 and X2 are equal or unequal and each represent a hydrogen atom, an alkyl group having 1 to 6 carbon atoms or an aryl group, or where they together represent one substituent, which is bonded to the carbon atom of the main chain with a double bond, and where n has a value from 50 to 5000 and said layer of said radiation-sensitive substance is provided with a radiation-absorbing colorant.

CA Ref: 115244177
Class: 430017000
Class Cross Ref: 430014000; 430015000; 430018000; 430270140; 430271100; 430320000; 430321000; 430324000; 430326000; 430945000; 430964000
IPC: G03C-001/00
IPC Cross Ref: G03C-003/00

3/5/5
DIALOG(R)File 340:CLAIMS(R)/US Patent

1866606 8813049
C/ **OPTICAL INFORMATION** RECORDING MEDIUM
Document Type: UTILITY
Inventors: ABE MICHIHARU (JP); OBA HIDEAKI (JP); SATO TSUTOMU (JP); UEDA YUTAKA (JP); UMEHARA MASAAKIRA (JP); YAMAMURO TETSU (JP)
Assignee: RICOH CO LTD JP Assignee Code: 71564

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 4758499	880719	US 904850	860905
	(Cited in 001 later patents)			
Cont.-in-part of:	ABANDONED		US 752383	850703
Priority Applic:			JP 84137890	840705
			JP 84153237	840725

Abstract:
This invention relates to an **optical information** recording medium, characterized by having an organic thin film recording layer containing at least one of triaryl methane type coloring matters expressed by the general formula (1), (2) or (3):

R1-N(-R2)-AR1-(+)C(-AR2-N(-R3)-R4)-AR3-N(-R5)-R6 X(-) (1)

R1-N(-R2)-AR1-(+)C(-AR2-R7)-AR3-N(-R5)-R6 X(-) (2)

(wherein, in the above formulas (1) and (2), Ar1, Ar2 and Ar3 may be the same or different and represent a substituted or nonsubstituted arylene group, at least one pair of optical two nitrogen atoms bonded with said arylene groups being connected by an atomic chain having at least ten carbon atoms in total number in the shortest way; R1, R2, R3, R4, R5, R6 and R7 may be the same or different and represent hydrogen atom, aliphatic hydrocarbon group, cycloaliphatic hydrocarbon group, aromatic hydrocarbon

group, halogen group, oxygen-containing characteristic group, ether group, carboxylic acid group, carboxylic acid ester group, acyl group, oxygen-containing complex group, sulfur-containing characteristic group, one nitrogen atom-containing characteristic group, two nitrogen atomcontaining characteristic group or heterocyclic group; and Xrepresents and acid anion); or

AR4-C(+)(-AR5)-AR6 (3)

(wherein in the above general formula (3), Ar4, Ar5 and Ar6 may be the same or different and represent a substituted or nonsubstituted aryl group; and X- represents an acid anion; provided that at least one of said three aryl groups is a group expressed by the general formula,

((R8)L,(3,4-(-N(-R9)-((R10)M-1,2-PHENYLENE)-)PHENYL)-

wherein Z represents

>S, >C(-CH3)-CH3, >O, >SE OR >N-R11;

R8, R9, R10 and R11 may be the same or different and represent hydrogen atom, aliphatic hydrocarbon group, cycloaliphatic hydrocarbon group, aromatic hydrocarbon group, halogen group, oxygen-containing characteristic group, ether group, carboxylic acid group, carboxylic acid ester group, acyl group, oxygencontaining complex group, sulfur-containing characteristic group, one nitrogen atom-containing characteristic group, two nitrogen atom-containing characteristic group or heterocyclic group; 1 represents 0 or an integer of 1 to 3; and m represents 0 or an integer of 1 to 4).

Exemplary Claim:
D R A W I N G

1. AN **OPTICAL INFORMATION** RECORDING MEDIUM, COMPRISING AN ORGANIC THIN FILM RECORDING LAYER CONTAINING AT LEAST ONE OF TRIARYL METHANE TYPE COLORING MATTERS EXPRESSED BY THE GENERAL FORMULA (3):

AR4-(+)C(-AR5)-AR6 I(-) (3)

WHEREIN, IN THE ABOVE GENERAL FORMULA (3), AR4, AR5 AND AR6 MAY BE THE SAME OR DIFFERENT AND REPRESENT A SUBSTITUTED OR NONSUBSTITUTED ARYL GROUP; AND X- REPRESENTS AN ACID ANION; PROVIDED THAT AT LEAST ONE OF SAID THREE ARYL GROUPS IS A GROUP EXPRESSED BY THE GENERAL FORMULA:

3,4-(-Z-((R10)M-1,2-PHENYLENE)-N(-R9)-),(R8)L-PHENYL

WHEREIN Z REPRESENTS

-S-, -C(-CH3)2-, -O-, -SE- OR -N(-R11)-;

R8, R9, R10, AND R11 MAY BE THE SAME OR DIFFERENT AND REPRESENT A HYDROGEN ATOM, ALIPHATIC HYDROCARBON GROUP, CYCLOALIPHATIC HYDROCARBON GROUP, AROMATIC HYDROCARBON GROUP, HALOGEN GROUP, HYDROXY GROUP, HYDROPEROXY GROUP, ETHER GROUP, CARBOXYLIC ACID GROUP, CARBOXYLIC ACID ESTER GROUP, ACYL GROUP, ACETONYL GROUP, PHENATHYL GROUP, SALICYL GROUP, SALICYLOXY GROUP, ANISYL GROUP, ANISOYL GROUP, MERCAPTO GROUP, ALKYLTHIO GROUP, ARYLTHIO GROUP, THIOFORMYL GROUP, THIOACETYL GROUP, THIOCARBOXY GROUP, DIOTHIOCARBOXY GROUP, THIOCARBAMOYL GROUP, SULFINO GROUP, SULFO GROUP, MESYL GROUP, ARYLSULFONYL GROUP, TOSYL GROUP, SULFAMOYL GROUP, SULFOAMINO GROUP, AMINO GROUP, ALKYLAMINO GROUP, DIALKYLAMINO GROUP, ARYLAMINO GROUP, DIARYLAMINO GROUP, CYANO GROUP, ISOCYANO GROUP, CYANATO GROUP, ISOCYANATO GROUP, THIOCYANATO GROUP, ISOTHIOCYANATO GROUP, HYDROXYAMINO GROUP, ACETYLAMINO GROUP, BENZOYLAMINO GROUP, SUCCINIMIDE GROUP, CARBAMOYL GROUP, NITROSO GROUP, NITRO GROUP, PICRYL GROUP, HYDRAZINO GROUP, ARYLAZO GROUP, AZIDO GROUP, UREIDO GROUP, AMIDINO GROUP, QUANIDINO GROUP, OR HETEROCYCLIC GROUP; L REPRESENTS 0 OF AN INTEGER OF 1 TO 3; AND M REPRESENTS 0 OR AN INTEGER OF 1 TO 4).

5. THE **OPTICAL INFORMATION** RECORDING MEDIUM ACCORDING TO CLAIM 1, INCLUDING A **SUBSTRATE** SUPPORTING SAID LAYER, WHEREIN SAID

SUBSTRATE HAS A PREGROOVE.

Class: 430270150
Class Cross Ref: 346135100; 430271100; 430338000; 430339000; 430964000
IPC: G03C-001/72

3/5/6
DIALOG(R)File 340:CLAIMS(R)/US Patent

1771037 8710401
C/ METHOD OF PROVIDING A **SUBSTRATE** WITH AN OPTICALLY READABLE INFORMATION DISC; ROTATABLE BY MEANS OF DRIVE APPARATUS
Document Type: UTILITY
Inventors: PEETERS HENDRIKUS W (NL)
Assignee: OPTICAL STORAGE INTERNATIONAL-HOLLAND NL Assignee Code: 16404

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 4670077	870602	US 778659	850923
	(Cited in 006 later patents)			
Priority Applic:			NL 851148	850419

Abstract:
The invention relates to a method of providing a **substrate** with a centered optically detectable structure, such as a servo structure on a transport **substrate** of an **optical information** disc. The method uses a mould (1) having a base (1A) carrying a mould structure (2) which is covered with a reproduction layer (4) of a transparent radiation-**curable resin**, which after curing is detached from the mould together with the **substrate**. In its center the base (1A) of the mould is provided with base-centering means (7) relative to which the mould structure is centered accurately. Before it is placed on the mould a **substrate** (3) is provided with a disc hub (8) comprising separate disc-centering means (9) which serve to center the finished information disc (17) on the drive spindle (27) of a drive apparatus. The intermediate product comprising the **substrate** (3) and the disc hub (8) is centered on the base (1a) of the mould by cooperation between the base-centering means (17) and the disc-centering means (9). This may be effected by the use of an auxiliary centering means (12) which is in contact with a wall (14) of a central centering hole (11) in the disc hub (8) and with a wall (13) of a central centering recess (10) in the base (1A). Thus, the reproduction layer is cured in the position which is thus centered without any play, after which the **substrate** together with the disc hub is detached from the mould without the centering of the servo track on the **substrate** being disturbed.

Exemplary Claim:
D R A W I N G

1. A METHOD OF PROVIDING A **SUBSTRATE** OF AN OPTICALLY READABLE INFORMATION DISC WITH AN OPTICALLY DETECTABLE STRUCTURE, WHICH DISC CAN BE ROTATED BY MEANS OF A DRIVE APPARATUS COMPRISING A DRIVE SPINDLE AND OPTICAL READ MEANS, WHICH METHODS EMPLOYS A MOLD HAVING A BASE PROVIDED WITH A MOLD STRUCTURE WHICH IS COVERED WITH A REPRODUCTION LAYER, WHICH IN A DEFORMABLE PHASE ADAPTS ITSELF TO THE MOLD STRUCTURE, IS SUBSEQUENTLY SOLIDIFIED AND, WHILE ATTACHED TO THE **SUBSTRATE**, IS SEPARATED FROM THE MOLD IN SUCH A WAY THAT THE STRUCTURE IS MAINTAINED, CHARACTERIZED BY: PROVIDING BASE-CENTERING MEANS AT THE CENTER OF THE BASE, SAID BASE-CENTERING MEANS HAVING A CENTRAL RECESS WITH A WALL OF CIRCULAR CROSS SECTION, ARRANGING THE MOLD STRUCTURE ON THE BASE CONCENTRICALLY WITH SAID CENTRAL RECESS, PROVIDING A DISC HUB WITH DISC CENTERING MEANS HAVING A CENTRAL THROUGH-HOLE WITH A WALL OF CIRCULAR CROSS-SECTION INTENDED FOR CENTERING THE FINISHED INFORMATION DISC ON THE DRIVE SPINDLE OF A DRIVE APPARATUS, PERMANENTLY ATTACHING SAID HUB TO THE CENTER OF SAID **SUBSTRATE** TO FORM AN INTERMEDIATE PRODUCT, PLACING SAID INTERMEDIATE PRODUCT ON SAID MOLD WITH SAID REPRODUCTION LAYER IN ITS DEFORMABLE PHASE THEREBETWEEN, CENTERING THE INTERMEDIATE PRODUCT BY MEANS OF AUXILIARY CENTERING MEANS WHICH IS INSERTED INTO THE

THROUGH HOLE OF THE HUB AND MAKES CONTACT BOTH WITH THE WALL OF THE CENTRAL RECESS IN [redacted] BASE AND THE WALL OF THE THRO[redacted] HOLE IN THE HUB, FIXING THE INTERMEDIATE PRODUCT ON THE MOLD UNTIL THE REPRODUCTION LAYER HAS SOLIDIFIED AND ADHERES TO THE **SUBSTRATE**.

Class: 156245000
Class Cross Ref: 156272200; 156308200; 264001330; 264106000; 264259000; 264496000
IPC: B29D-017/00

```
? s curable(1w)resin? ? and (first or second)(1w)substrate? ?

Processing
Processing
           13584  CURABLE
          114733  RESIN? ?
            2471  CURABLE(1W)RESIN? ?
         1130944  FIRST
         1099854  SECOND
          125982  SUBSTRATE? ?
            4150  (FIRST OR SECOND)(1W)SUBSTRATE? ?
      S4      12  CURABLE(1W)RESIN? ? AND (FIRST OR SECOND)(1W)SUBSTRATE? ?
? s s4 not s2

              12  S4
              11  S2
      S5      11  S4 NOT S2
? s s5 and (hole or circumference or radiation or center or rotat?)

              11  S5
          104458  HOLE
           42007  CIRCUMFERENCE
           66187  RADIATION
          178646  CENTER
          506591  ROTAT?
      S6       3  S5 AND (HOLE OR CIRCUMFERENCE OR RADIATION OR CENTER OR
                  ROTAT?)
? t6/5/1-3


 6/5/1
DIALOG(R)File 340:CLAIMS(R)/US Patent
(c) 1998 IFI/Plenum Data Corp. All rts. reserv.

2641252   3558698
E/ DIRECT-CONTACT TYPE IMAGE SENSOR USING OPTICAL FIBER ARRAY WITH LIGHT
    ABSORBING CLADDING
Document Type: UTILITY
Inventors: Fujiwara Shinji (JP); Kawamoto Eiji (JP); Nakamura Tetsuro (JP)
Assignee: Matsushita Electric Industrial Co Ltd JP  Assignee Code: 53120
                   Patent     Issue     Applic     Applic
                   Number      Date     Number      Date
                  ----------   ------   ---------   ------
Patent:           US 5448055   950905   US 161123   931202
Priority Applic:                        JP 92323906 921203
                                        JP 92327754 921208
Abstract:
The present invention provides a direct-contact type image sensor device in
which an image sensor chip having electrodes and a photosensitive element
array is mounted on an optical fiber array plate by a flip-chip-bonding
method. The optical fiber array plate includes a first opaque
substrate, a second opaque substrate, an optical fiber
array formed by arranging a plurality of optical fibers, and a transparent
member disposed in contact with a side face of the optical fiber array, the
optical fiber array and the transparent member being interposed between the
first and second opaque substrates. Each of the plurality of
optical fibers includes a center core, a clad provided on an outer
surface of the core, and a light absorbing layer provided on an outer
surface of the clad. The image sensor chip is provided in such a way that
```

the photosensitive element array is disposed along an upper end of the optical fiber array and in a portion of the optical fiber array plate except the transparent member, the transparent member forming a slit for transmitting light.

Exemplary Claim:
D R A W I N G

D R A W I N G

1. A direct-contact type image sensor device in which an image sensor chip having electrodes and a photosensitive element array is mounted on an optical fiber array plate by a flip-chip-bonding method, wherein the optical fiber array plate includes a **first** opaque **substrate**, a **second** opaque **substrate**, an optical fiber array formed by arranging a plurality of optical fibers, and a transparent member disposed in contact with a side face of the optical fiber array, the optical fiber array and the transparent member being interposed between the first and **second** opaque **substrates**, and wherein each of the plurality of optical fibers includes a **center** core, a clad provided on an outer surface of the core, and a light absorbing layer provided on an outer surface of the clad, and wherein the image sensor chip is positioned in such a way so that the photosensitive element array is disposed along an upper end of the optical fiber array and in a portion of the optical fiber array plate not including the transparent member, whereby the transparent member forms a slit for transmitting light by using one of the first and **second** opaque **substrates** as a light shield, so as to reduce variation in width of the slit along a main scanning direction.

Class: 250208100
Class Cross Ref: 358484000
IPC: H01J-040/14

6/5/2
DIALOG(R)File 340:CLAIMS(R)/US Patent

2455997 9407130
C/ DECORATIVE SHEET AND PROCESS FOR PREPARATION THEREOF; PRINTING SURFACE OF SUBSTRATE SHEET WITH INK OF IONIZING **RADIATION-CURABLE RESIN** TO FORM PATTERN, SEMICURING, COATING WITH NON-CURING RESIN PRIMER LAYER, CURING, PILING ON ANOTHER SHEET, COMPRESSING OR HEAT-COMPRESSING TO EMBED
Document Type: UTILITY
Inventors: Doi Tomio (JP); Horie Yoshiharu (JP); Nakamura Norinaga (JP); Shimizu Kenshi (JP); Takeko Osamu (JP); Tsukada Masaki (JP)
Assignee: Dai Nippon Insatsu K K JP Assignee Code: 21954

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 5296340	940322	US 582845	901220
	(Cited in 002 later patents)			
Priority Applic:			JP 8940049	890220
			JP 8919929	890801
PCT Information:	WO 909282	900823	WO 90JP196	900220
Section 371 Filing Date:				901220
Section 102(e) Date:				901220

Abstract:
A decorative sheet having a **first substrate** sheet 11 formed of a transparent plastic material, in one or both of the surfaces of which all or a part of a pattern-printed layer 2 is embedded, a laminated sheet formed by laminating a **second substrate** sheet 12 formed of a transparent plastic material on one surface of the abovementioned sheet, or a laminated sheet formed by laminating a third substrate sheet, 13 formed of a plastic material having a concealing effect on the above-mentioned sheet or laminated sheet. This decorative sheet has an excellent three-dimensional effect.

Exemplary Claim:
D R A W I N G

1. A process for the preparation of a decorative sheet, which comprises the following steps: 1) performing buildup printing of at least one surface of a **first substrate** sheet with an ink comprising an ionizing **radiation-curable resin** or its mixture with an ionizing **radiation**-uncurable resin as the vehicle to form a patternprinted layer; 2) semi-curing the pattern-printed layer by irradiation with an ionizing **radiation**; 3) coating an ionizing **radiation**-uncurable resin or its mixture with an ionizing **radiation-curable resin** on the semi-cured pattern-printed layer to form a primer layer; 4) irradiating the assembly with an ionizing **radiation** again to cure completely the pattern-printed layer; and 5) piling a **second substrate** sheet and/or a third substrate sheet on the **first substrate** sheet and compressing or heatcompressing the assembly to embed the pattern-printed layer in at least one of the substrate sheets.

Class: 430394000
Class Cross Ref: 101487000; 101490000; 156196000; 156209000; 156219000; 156244160; 156272200; 156273300; 156273500; 156275500; 156277000; 427271000; 427369000; 427372200; 427504000; 427521000; 430904000
IPC: G03C-005/00
IPC Cross Ref: B32B-031/00

6/5/3
DIALOG(R)File 340:CLAIMS(R)/US Patent

1445893 8304082
C/ PHOTOPOLYMERIZABLE EPOXY-CONTAINING COMPOSITIONS; AROMATIC IODONIUM COMPLEX SALT PHOTOINITIATOR; A PHOTOSENSITIZER
Document Type: UTILITY
Inventors: SMITH GEORGE H (US)
Assignee: MINNESOTA MINING & MANUFACTURING CO Assignee Code: 55992

	Patent Number	Issue Date	Applic Number	Applic Date
Patent:	US 4378277	830329	US 885207	780310
	(Cited in 009 later patents)			
Continuation of:	ABANDONED		US 467899	740508
Priority Applic:			US 885207	780310
			US 467899	740508

Abstract:
Photopolymerizable epoxy compositions which comprise an epoxycontaining material and photosensitive aromatic iondonium salt of a halogen-containing complex ion are described as are coated substrates and methods for bonding materials together using such compositions.

Exemplary Claim:
1. A PHOTOPOLYMERIZABLE COMPOSITION COMPRISING: (A) AN ORGANIC COMPOUND HAVING AN EPOXY FUNCTIONALITY OF AT LEAST 1; (B) ABOUT 0.5 TO 30 PARTS BY WEIGHT, PER 100 PARTS BY WEIGHT OF SAID ORGANIC COMPOUND, OF AN OROMATIC IODONIUM COMPLEX SALT PHOTOINITIATOR OF THE FORMULA

(AR1<(-(Z)N-AR2-I-))(+) X(-)

WHEREIN AR1 AND AR2 ARE AROMATIC GROUPS HAVING 4 TO 20 CARBON ATOMS AND ARE SELECTED FROM THE GROUP CONSISTING OF PHENYL, THIENYL, AND FURANYL GROUPS; Z IS AN OXYGEN ATOM, A CARBON-TO-CARBON BOND, OR

R1-C(-(-))(-R2)-

WHERE R1 AND R2 ARE SELECTED FROM THE GROUP CONSISTING OF HYDROGEN, AN ALKLY RADICAL HAVING 1 TO 4 CARBON ATOMS, AND AN ALKENYL RADICAL HAVING 2 TO 4 CARBON ATOMS, AND N IS ZERO OR 1; AND X- IS A HALOGEN-CONTAINING

COMPLEX ANION SELECTED FROM THE GROUP CONSISTING OF TETRAFLUOROBORATE, HEXAFLUOROPHOSPHATE, HEXAFLUOROARSENATE, HEXACHLOROANTIMONATE, AND HEXAFLUOROANTIMONATE; AND (C) ABOUT 0.01 TO 1 PART BY WEIGHT OF SENSITIZING DYE PER PART BY WEIGHT OF PHOTOINITIATOR.

Class: 156275500
Class Cross Ref: 427517000; 430280100; 522032000; 522063000; 522100000; 522170000; 528408000; 528409000; 556064000; 556069000; 556078000; 556081000; 556085000; 556106000; 568008000; 568013000; 568017000
IPC: C08F-008/18